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NOTES AND BRIEF ARTICLES

[Unsigned notes are by the editor]

The familiar stem-end rot of pineapples can be largely controlled, according to J. Matz, of the Porto Rico Department of Agriculture, by leaving longer stems on the fruit and fumigating with formaldehyde gas.

Sphaeropsis ulmicola is thought to be the cause of a serious canker of the branches of the American elm in Wisconsin. Most of the trees affected are fifteen years or more old. See Wisconsin Dept. Agric. Bull. **33**: 158–163, by E. E. Hubert & C. J. Humphrey.

Mr. H. E. Parks has sent to the herbarium a number of interesting, original photographs of California fungi, including good views of *Rhizopogon maculatus, Hydnangium carneum,* and *Secotium tenuipes.*

Plant diseases, especially in greenhouses, have been traced in many instances to the water supply. W. F. Bewley and W. Buddin have cited a number of cases in a recent article in the *Annals of Applied Biology.*

A wither-tip of limes, caused by *Gloeosporium limetticola,* is said to be common on lime trees in British Guiana during July and August, when frequent applications of strong Bordeaux mixture are required to hold the disease in check. Fortunately, the fruits are usually immune after they are half grown.

Leaf-spot of orchids is not a single, specific disease, but a complication of various troubles needing careful and intensive investigation. This is the conclusion of a number of plant pathologists, including W. B. Brierley, of the new Rothamsted Experiment Station in England.

The needle-blight of white pine is said by J. H. Faull, who has observed and investigated it for several years, to be physiological in its nature. Warm, bright days in winter, when the ground is frozen and the roots inactive, cause excessive loss of water from the tips of the leaves and they dry out and become brown.

A paper by E. B. Mains on unusual rusts of *Nyssa* and *Urticastrum,* published in the *American Journal of Botany* for November, 1921, includes a description of the new genus *Aplospora,* based on *Uredo Nyssae,* and two new combinations, *Aplospora Nyssae* (Ellis & Tracy) Mains and *Cerotetium Dicentrae* (Trel.) Mains & Anderson.

Greenhouse diseases observed at Macdonald College, Quebec, were briefly noted by B. T. Dickson in a recent annual report of the Quebec Society for the Protection of Plants. The chief diseases discussed are: carnation rust; cineraria dwarfing, mosaic, and distortion; snapdragon rust; sweet pea powdery mildew; tomato mosaic and a leaf-mold; and violet leaf-spot.

A bud-rot of peonies, which has been observed by various persons during the past few years, was described by H. W. Thurston, Jr. & C. R. Orton in *Science* for 1921. Just as the flower buds are swelling, they turn black and decay, the disease often extending to the upper leaves and several inches of the stalk. Infected material yielded a species of *Phytophthora* closely related to *P. infestans.*

A bacterial disease of gladiolus, caused by *Bacterium marginatum,* was described by L. McCulloch in *Science* for 1921. It is abundant in and about Washington, D. C., and probably occurs also in Illinois and California. The affected leaves show elliptic spots that are at first rusty-red, then dull-brown or purplish. Moist, warm weather is very favorable to the growth of the pathogen, often resulting in the decay of the entire plant above ground.

The following new parasitic fungi were described and illustrated by J. J. Davis in the *Transactions of the Wisconsin Academy of Sciences* 20: 399–431. 1922: *Synchytrium pulvereum, Septoria coreopsidis, Gloeosporium balsameae, Ramularia minax, R. cilinodis, Sphaerulina pallens, Phacidium planum, P. expansum, P. balsameae, Lophodermium thuyae, Stagonospora tetramera, Piggotia vaccinii, Gloeosporium bicolor, Cladosporium astericola, Cercospora tuberculella,* and *C. tortipes.*

In an article by Miss Wakefield in the *West Indian Bulletin* for 1921, the general subject of mosaic diseases of plants and their origin is discussed at some length. Infection by a living organism seems to be the only way to cause mosaic, according to Miss Wakefield; while "discovery of a possible symplastic stage in bacteria, and of the formation of filterable gonidia which may produce new bacteria directly or after having entered the symplastic stage, appears to increase the possibility that eventually many of the infectious filterable viruses may prove to contain living organims."

The treatment of seeds before planting has usually been based on the supposition that the pathogen to be controlled was external; but C. C. Chen, of the Maryland Experiment Station, has discovered a number of internal fungous parasites of agricultural seeds. For example, *Cylindrophora* in asparagus seed; *Alternaria* in cabbage seed; *Fusarium, Macrosporium,* and *Alternaria* in common beans; *Fusarium* in lima beans; *Macrosporium* in cowpeas; *Macrosporium* and *Fusarium* in soy beans; *Oospora* in sweet corn seedlings; and *Rhizopus* in seeds taken from a rotten tomato. He recommends seed selection, the germination test, and the most approved hot water and hot air treatments.

Forty-two numbers of fungi were brought back from South America by Dr. H. H. Rusby, collected by himself and other members of the Mulford biological exploring party in Bolivia. Whenever possible, sufficient material was obtained to make four sets, three of them to be deposited at the New York Botanical Garden, the Brooklyn Botanic Garden, and Harvard University, and the remaining one to be sent to Bolivia. These specimens are mostly woody polypores or tough gill-fungi. Attention may be called to the very rare *Camillea Leprieurii* Mont. and to the following species of less interest: *Armillaria alphitophylla* (Berk. & Curt.) Murrill, *Lentodiellum concavum* (Berk.) Murrill, *Lentinula detonsa* (Fries) Murrill, *Cookeina Tricholoma* (Mont.) O. Kuntze, and *Cladoderris dendritica* Pers.